

- 19 -

CLAIMS

1. A fastener adapted for use with a mandibular splint for treating a person suffering from a sleep disorder said fastener including a locating means for locating the fastener at a pre-selected position for forming a first arch member of the mandibular splint;
 - 5 a connecting means for connecting the first arch member to a second arch member of the mandibular splint in use of the splint, said connecting means being adjustable to selectively adjust the position of the first and second arch members with respect to each other to adopt a pre-determined position; and
 - 10 an attachment means for use in attaching an extension member to the first arch member for forming at least a part of the first arch member wherein the extension member is selectively movable about the attachment means to adopt a selective orientation in accordance with the specific requirements of a person being treated for the sleep disorder.
- 15 2. A fastener according to claim 1 in which the fastener includes a base plate and a cover and the locating means extends substantially perpendicularly from the base plate.
- 20 25 3. A fastener according to claim 2 in which the locating means is located centrally within the fastener and is located at or towards the front of the fastener in use.
- 30 4. A fastener according to claim 3 in which the locating means is a flange, tag, tab or flap.
- 35 5. A fastener according to claim 2 in which the connecting means is movable with respect to the base plate and/or the cover.
6. A fastener according to claim 5 in which the connecting means is a hook, clip, clasp or the like.
7. A fastener according to claim 6 in which the hook is provided with a shank and the shank is provided with an internally threaded aperture for receiving and externally

- 20 -

threaded shaft so that rotation of the shaft within the aperture moves the hook with respect to the base plate and/or cover.

8. A fastener according to claim 7 in which at least part of the hook is located in a cavity, chamber or the like formed intermediate the base plate and the cover.
- 5 9. A fastener according to claim 8 in which the cover is provided with a slot through which a part of the hook, preferably the shank of the hook, is received for movement in a lengthwise extending direction of the slot.
- 10 10. A fastener according to claim 9 in which the attachment means is a flap, tab, tag or the like extending outwardly from the base plate of the fastener.
11. 11. A fastener according to claim 10 in which the tab is provided with an aperture.
- 15 12. A fastener according to claim 9 in which there are two attachment means in the form of tabs or the like extending in opposite directions from opposed sides of the base plate.
- 20 13. A fastener according to claim 12 in which the tabs or the like are angularly inclined to the base plate or are in stepped relationship with the base plate or are in a common plane of the base plate.
14. 14. A fastener according to claim 1 in which the extension member is a wing, preferably an arcuate shaped wing and more preferably an arcuate shaped wing of adjustably length.
- 25 15. A fastener according to claim 14 in which the wing is provided with a frangible section or break-line

--

- 21 -

projection is received within an aperture provided in the tab, providing pivotal movement of the wing with respect to the fastener.

18. A fastener according to claim 17 in which there
5 are two wings extending in opposite directions from the opposed tabs provided on either opposed side of the base plate allowing separate pivotal movement of the wings to conform to the anatomy of the mouth of the person using the device.

10 19. A fastener according to claim 18 in which the wing or wings are continuously selectively positionable with respect to the fastener to adopt a variety of orientations in order to accommodate differences in individual requirements depending upon the anatomy of the
15 mouth of the person using the splint.

20. A fastener according to claim 19 in which the orientation of the wings about the fastener can extend from subtending an angle of about 13° to about 41° between the wings or with respect to the centre line of the fastener.

20 21. A fastener according to claim 20 in which the wings extend on either side of the fastener include a tray member and a deformable thermoplastic material or the like located within the tray member, such that the material is mouldable when soft to conform to the shape of the teeth of
25 the person using the device.

22. A fastener according to claim 1 in which the connecting means engages a complementary connecting means in which the complementary connecting means is in the form of a lip, shelf, groove, slot, flange, ring, loop or the
30 like.

23. A fastener according to claim 1 in which the complementary connecting means is rearwardly directed and is located at or towards the centre.

24. A fastener according to claim 1 in which the tip
35 of the hook or the connecting means engages with the lip or flange of the complementary connecting means so that movement of the hook causes corresponding movement of the

arch member having the lip flange or the like to bring the lower jaw forward with respect to the upper jaw thereby altering the shape of the airway to reduce or prevent snoring.

5 25. A fastener according to claim 1 which is manually adjustable or is automatically adjustable using a manual adjustment means or a motorised adjustment means.

26. An arch member of a mandibular splint for use in treating a person suffering from a sleep disorder, said
10 arch member including a fastener and at least one extension member wherein the fastener has a locating means for locating the fastener for forming the arch member, connecting means for connecting the arch member to another arch member, said connecting means being adjustable so as
15 to selectively adjust the position of the two arch members with respect to each other and an attachment means for attaching the extension member to the fastener for forming the arch member wherein the extension member is selectively movable about the attachment means to adopt a selective
20 orientation with respect to the fastener to form the arch member in accordance with the specific requirements of a person being treated for the sleep disorder.

27. A mandibular splint for treating a person suffering from a sleep disorder, said splint including two
25 arch members connected together in use of the splint, wherein at least one of the arch members includes a fastener and at least one extension member wherein said fastener includes a locating means for locating the fastener when forming the arch member, a connecting means
30 for connecting the two arch members together in use of the splint, said connecting means being adjustable to selectively position the two arch members with respect to each other in a pre-determined position, and an attachment means for attaching at least one extension member to the
35 fastener wherein the extension member is selectively movable about the attachment to adopt a selective orientation with respect to the fastener in accordance with

- 23 -

the specific requirements of a person being treated for the sleep disorder and wherein said other arch member is provided with a connection means complimentary to the connection means of the first arch member so as to maintain

5 the two arch members in the pre-determined spatial arrangement.

28. A method of treating a person suffering from sleep disorder with a mandibular splint including:

two arch members where at least one arch member
10 is provided with an adjustable fastener for connecting the two arch members together;

said method including the steps of either sequentially or simultaneously locating the two arch members either in combination or separately in the oral
15 cavity of the person, connecting the two arch members together if required, and selectively adjusting the position of the two arch members with respect to each other by adjusting the adjustable fastener wherein,

the adjustable fastener provided on one of the
20 arch members includes;

a locating means for locating the fastener;
a connecting means for connecting the two arch members together; and

an attachment means for attaching at least one
25 extension member to the fastener wherein,

the extension member is selectively movable about the attachment means to adopt a selective orientation with respect to the fastener in accordance with the specific requirement of the person being treated.